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ABSTRACT

A study was conducted at a new elementary school in central Virginia to investigate influences on teachers' choices of seating arrangements and to determine the best seating arrangement to use. Four classroom teachers, each with an average class size of 20 students, volunteered to be observed and interviewed. The teachers taught at different grade levels between 1st and 4th grade, had teaching experience ranging from 5 to 21 years, and used different seating arrangements. The teacher of a combined 1st and 2nd grade class used a horseshoe seating arrangement. The 2nd grade teacher changed her room arrangement frequently, most often using moveable desks placed in rows. Desks were grouped in clusters of four to five by the 3rd grade teacher. The 4th grade teacher used a random design. Interviews with teachers covered such topics as teachers' backgrounds, the type of instruction used, typical classroom activities, and teachers' views on seating arrangements. Classroom observations used a time-sweep approach to measure on-task interactions, individual behavior, and the frequency of students' absences from their seats. Observation results indicated that while some seating arrangements were effective for the particular classroom activities observed, none was as effective as changing seating arrangements to match teaching goals would have been. Results also suggested that there was no best overall seating arrangement and that arrangements should be made in accordance with class needs and teaching styles. Other considerations in room arrangements include room logistics, student personalities, and amounts and types of interaction. (AC)

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Seating Arrangements:

Changing With the Times

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ABSTRACT

As the first day of school approaches, teachers everywhere are faced with the task of setting up an empty classroom. What influences a teacher as she arranges the students' desks, and which is the best seating arrangement to use? A study was conducted at a new elementary school, located in an affluent area of Central Virginia, in an attempt to answer this question. Four classroom teachers each with an average class size of 20 students, were observed and interviewed within a three week period. Each teacher taught at a different grade level, had various amounts of teaching experience, different seating arrangements, and definite ideas about the importance of such arrangements. The observations, conducted after the interviews, used a time-sweep approach to measure on-task interactions and individual behavior, as well as noting the frequency with which students were absent from their seats. The combined results indicated that there is no best overall seating arrangement, but rather arrangements should be made in accordance with class needs and accompanying teaching styles. If the seating arrangement is to be effective, then it must be versatile enough to allow for the variety of activity which occurs in today's elementary classroom.

INTRODUCTION

During my student teaching experience, I had the opportunity to visit several other classrooms in my school building. I immediately noticed the variety of seating arrangements used by the different teachers. While some arrangements were similar, most of the arrangements completely contrasted each other. How did teachers decide what type of arrangement to use in their classrooms? Which arrangement was the best arrangement? These were questions I wanted answered before I was faced with the task of setting up a classroom myself.

At a time when teacher autonomy and school effectiveness are being inextricably linked, it is appropriate to examine an issue over which a teacher usually has total control, the classroom seating arrangement. By probing teachers for their rationale behind chosen seating arrangements, and by exploring whether such a rationale fits effectively with the activity taking place in their classroom, this study provides teachers with a list of factors to be considered in choosing seating arrangements. Such a decision is as important as any choice a teacher must make in selecting teaching strategies and creating the best environment for students' learning. Thus, a teacher should feel prepared to make this decision with an understanding of the possible effects of any given arrangement, and should be able to manipulate the classroom setting to best fulfill his teaching goals.

LITERATURE REVIEW

Several studies have been conducted in the last 20 years to determine various effects of seating arrangements on areas such as individual on-task behavior, on-task participation in discussion, and teacher reaction to the students. The availability of studies recommending almost any type of arrangement is significant in that each recommendation is made to meet a specific goal. By specifying each suggestion, researchers have demonstrated that there is no single best seating arrangement, but that the effectiveness of any arrangement is dependent on the activity at hand.

Rosenfield, Lambert, and Black (1985) found that a circular arrangement produced more on-task out-of-order comments, on-task oral responses, and on-task behavior than rows in a discussion-based format. Clusters of desks also produced more on-task behavior than rows in such a lesson, as well as producing more hand-raising in students' participation. Rows of desks were found to produce the most withdrawal responses and off-task behaviors in a discussion. Based on these findings, Rosenfield et al. recommend a circular seating arrangement to teachers who wish to facilitate student interaction during a discussion session.

However, when trying to facilitate individual on-task behavior as Wheldall and Lam (1987) did in a special school for behaviorally troubled children, they encouraged the use of rows to produce desired pupil and teacher behavior. They found that individual on-

task behavior doubled when seats were changed from clusters to a row formation. Not only did the majority of students exhibit greater individual on-task behavior when sitting in rows, but the teacher's positive comments also rose dramatically as a result of the changed seating arrangements. The study, emphasizing the importance of ecological variables' influence on classroom behavior, does not prescribe rows as the solution for all times, however. Just as Rosenfield et al. indicate that circles are best for class discussion, Wheldall and Lam recognize that rows are most conducive to independent work. They emphasize that rows are "not necessarily the best arrangement for all kinds of learning activities," and indeed, that "static classroom spatial arrangements should give way to purposeful and experimental manipulations to suit the task at hand" (p.311).

Such an emphasis on matching the purpose of an activity with the seating arrangement is the focus of Rhonda Ross' paper (1982) regarding synomorphy. She defines synomorphy as the similarity between the behavioral aspects of an activity (the program) and the accompanying physical aspects (the milieu). She notes that "just as there is no one best teaching method that can be used in all teaching situations, there is no one best seating arrangement" (p.13). Ross explains how the best seating arrangement depends on the activity being implemented, and the amount of student interaction and movement that the teachers desires. She contends

that teachers must rearrange their classrooms often in order for the program and milieu to stay in sync, and notes that it only takes 1.4 minutes to make a major rearrangement of more than 75% of the classroom furniture (p.21).

While Ross encourages teachers to rearrange furniture as often as necessary to coincide with various teaching methods, Cuban (1984) and Mayher and Brause (1986) discuss the lack of change of in classrooms over a century. In the early 1900's, rows of desks were bolted to the floor facing the blackboard and teacher's desk, in order to make the teacher's job of surveillance over a large class easier and to aide students in working uniformly on assigned tasks. However, while the change from such stationary furniture to movable chairs and desks might've been the greatest tangible change in schools over the last century, the expected educational reform did not necessarily accompany it.

Teachers had faced an external obstacle to the practical use of teaching methods advocated by educational reformers because of the fixed furniture. The freedom provided by movable furniture gave teachers flexibility in arranging their rooms, and made a student-centered classroom much more of a possibility. But while the bolts were removed, chairs and desks tended to remain in the same row and column formation facing the front, perpetuating the teacher-centered tradition. Factors promoting this constancy include: the idea that schools are a form of social control and sorting, and as such rows reinforce a teacher's authority and

provide the uniformity expected by society; and the tendency of teachers to use practices they've observed in their own experiences as a student.

Mayher and Brause address their article specifically to teachers, asking them questions about previous seating arrangements they've used and about the seating arrangements they remember having as a child. They point out how easy it is to remember such past arrangements, because the arrangements were probably indistinguishable from grade to grade. In fact, when I used this as an interview question, none of the teachers, even those teaching 21 years, hesitated in their reply. For the most part, they all remembered rows, as Cuban and Mayher and Brause stress in their findings. But while Cuban asserts that this memory influences teachers to set up their rooms in a similar fashion, none of these teachers arranged their own seats in the standard row and column formation. Some teachers selected features of this traditional formation, such as the focus on the front board, demonstrating a combination of student-centered and teacher-centered methodologies, and supporting Cuban's recognition of the difficulty of making a full transition from the teacher-centered to student-centered classroom.

In advocating the importance of changed seating arrangements to correspond with changing teaching methods, Mayher and Brause stress the value of examining "the fit between the objectives and means of learning we profess and physical configuration we employ"

(620). With educational reform constantly suggesting new ways that children learn best, it is imperative that teachers keep abreast of these developments and change their seating arrangements accordingly.

The literature concludes that various seating arrangements are significantly better than others in reaching specific goals. Because such goals are always changing, the seating arrangements should be changed as well, in order to provide an optimal learning experience for the student. Seating arrangements have a definite impact on the behavior of children in learning activities, and as Poysner recommends in his examination of clasroom physical environments (1983), teachers should learn about the effects in educational psychology courses and in-service workshops. In striving for school effectiveness, teachers must heed the advice of reformers in varying their teaching methods, which includes rearranging seats as an activity deems necessary.

METHODOLOGY

Sample

The study was conducted at a new elementary school in Central Virginia, 15 miles out-of-town from a major research university. The school system serves 10,150 students in a rural setting, with fifteen elementary schools, four middle schools, and three high schools. The particular school I chose opened this past September, though the K-2 wing was not ready until October. The students and teachers were drawn from a similar elementary school about 5 minutes away. The student population is almost entirely white, upper middle class, with noticeably few minorities in the student body or on the staff. There are 262 students in grades K-5, and 13 disabled preschoolers. The staff is composed of 14 regular classroom teachers, a music teacher, a resource teacher, a media specialist, a traveling art teacher, several custodians, a principal, a secretary, and several aides, as well as a multitude of parent volunteers.

The school has a fairly low teacher-student ratio, and each classroom is equipped with a Macintosh computer, a television, a VCR, and a telephone. Every classroom has windows on one side and a built-in blackboard at one end of the room. The teachers who participated in the study volunteered on a sign-up sheet which was passed around at a weekly staff meeting. I interviewed and

observed each of the four volunteers, and therefore did not make any preselections on my own. Below is a brief description of each teacher in the order in which I interviewed them:

1) Virginia Brown / has taught for 5 years / teaches combination 1-2 class / squared-off horseshoe seating arrangement

2) Lily Loustrunk / has taught for 18 years / teaches 2nd grade class / rows of four desks touching side-by-side

3) Bob White / has taught for 13 years / teaches 4th grade class/ an F-shaped variation

4) Ann Murray / has taught for 21 years / teaches 3rd grade class/ clusters of desks

They each teach an average of 20 students for the entire day, switching only for math.

Procedures

Via my clinical instructor, separate interview times were scheduled for each teacher. Each interview was alloted 30 minutes, though actual interview times ranged from 15-25 minutes. All of the teachers agreed to be audiotaped, and were very cooperative in answering my questions. The teachers were not informed of the subject of my study, and interview questions were left purposefully vague, although they knew by the end of the interview that I was looking at some aspect of seating arrangements. The interview questions were divided into three segments: (1) General questions about the teacher's own background, (2) What happens in the teacher's classroom (type of instruction, typical activities, etc.), and (3) Specific questions concerning the teacher's views on seating arrangements. See Appendix A for complete list of

interview questions. The questions were either original or suggested by the Mayher & Brause article.

The first three interviews were conducted on the same day, and took place in the individual teacher's classrooms, while the students were out of the room. The final interview had to be rescheduled for the following week, and took place in the teacher's lounge during lunch time. This was significant in that I was not familiar with the teacher's room and seating arrangement as we discussed it. As I had observed in the room once in the fall, I had a general idea about the arrangement of the classroom, but it was difficult to refer to in our conversation. Also, being in a noisy lounge surrounded by other teachers made this interview more difficult than the first three.

At the end of each interview, we set up a tentative observation time for a one hour block, although the actual observations lasted anywhere from 25-40 minutes. I designed my own observation instrument, based on samples from James Cooper's chapter "Observation Skills" in Developing Skills for Instructional Supervision and attachments from Jane Stallings' paper. The instrument uses a time-sampling method, taking 1-3 minute sweeps around the classroom in an order determined by seating chart. Each seat was given a number for the purpose of noting whom interactions occured between.

The code for the observations is found in Appendix B, and recognizes the quality and quantity of teacher-student

interactions, the quality and quantity of student-student interactions, the quality and quantity of independent work, and the frequency with which students were out of their seats. I focused on these areas because my findings from the literature implied that these were factors significantly affected by seating arrangements, and because these were the factors the teachers mentioned as influential in making their own decisions about seating arrangements. My main overall purpose was to see how well the teacher's objectives fit with the physical environment, looking for the synomorphy (compatability of program and milieu) which makes learning activities as effective as possible.

I encountered problems in each of my observations, starting with Mrs. Brown's 1-2 classroom, because I had sketched out the seating charting from the previous visit, but one of the students had moved since. Thus, I marked the code in the wrong desk for the first few sweeps before I noticed there was one desk fewer in the classroom than on my paper. The second problem I faced in this classroom was that the teacher was occupied teaching a single student how to work a computer program, while the rest of the class went on with the assigned activities of writing in their journals, reading their entries aloud, and reading books silently. This was a problem because I know this is atypical for this particular teacher, and thus the observation did not provide an accurate picture of teacher-student interaction in this classroom.

My second observation, of Mr. White's 4th grade class, was

saved by Mr. White himself. The desks had been separated into non-touching rows and columns to take the Iowa tests earlier that morning, and remained in that formation when I came to observe. I explained to Mr. White that my observation would be invalid unless the seats were moved back to their original arrangement, and so he had his whole class help move their seats back to where they had been in under two minutes.

My third and fourth observations, in Ms. Loustrunk's 2nd grade and Mrs. Murray's 3rd grade classes respectively, faced the same obstacle of beginning while the teachers were in the middle of working with a reading group. Because the teacher was occupied in the back of the room with a small group of children, and the rest of the children were working on independent projects, it was difficult to note teacher-student interactions. While the teachers were engaged in such interactions throughout the reading group time, I did not record these because I was focusing on the overall seating arrangement. A difference in Ms. Loustrunk's classroom, however, was that she had an aide working with the other children while she worked with the small group. I designated the aide as Teacher for the purpose of my observation, though her interactions do not reflect the actual teacher's practices. Also, because several children were back at reading group, the frequency of children absent from their seats is deceptively high.

Two more problems of interest were that: (1) my observation in Ms. Loustrunk's class was interupted after the third sweep for

class pictures and (2) the rest of my observation in Mrs. Murray's class included snack time and a guest speaker (whom again I designated as Teacher for my observation).

The major problem I found in all my observations was that I did not have enough eyes, ears, or hands, to get eveything down that was going on in the classroom. I needed a team of researchers to assist in the observations, so I could note such things as where the children who were absent from their seats were and what they were doing. If there had been more observers, the observation would have been much more telling, as well as accurate.

Analysis

After the observations were complete, I compiled my data, transcribing the interview tapes and totalling up percentages from the observations. I also took notes on things that were said and that I saw, analyzing the data vertically and then creating a matrix based on important themes I had found such as: the amount of freedom of movement children had, the relation of seating arrangements to teaching methods mentioned, and the frequency with which the teachers change their arrangements. I listed the advantages and disadvantages of each seating arrangement observed, concluding that none of the plans are perfect all of the time, and the teachers should take this into consideration when making lesson plans and arranging seats.

FINDINGS

After I had compiled all of my data, I focused on what I observed in each classroom and how these observations reflected what the teacher had told me in our interview. My findings for each classroom are broken down below.

CLASSROOM A (Virginia Brown - Grade 1/2):

What she said:

Mrs. Brown told me she had very strong feelings about her seating arrangement, the horseshoe, and had tried to use this formation for the last three years. It was important for her to have the space in the center for a meeting area, used for activities such as storytime, and to have the opening in the front of the room for presenters. She remembers her own seating arrangements as a child as rows.

Mrs. Brown told me that her class spent approximately 50% of class time in whole-class instruction, 25-35% in group work, and about 15% doing independent work. She stressed that children learn best when they feel like they're cared for and when individual needs are being met. Corresponding to this belief is her feeling that a great day consists of her getting to talk to a lot of the children, and "when I feel as though I've gotten to hear their opinions, feelings, and thoughts on things, that really makes me

feel as though I'm their teacher, I'm a large part of their life--they mean something to me, I mean something to them--that's a great day for me."

What I saw:

The activity I observed was a combination of children writing in their journals, reading their entries aloud to the class, and reading books silently when through with their journals. While the children worked on these activities at their desks, Mrs. Brown worked with an individual student on the computer in the front of the room. She facilitated the movement between presenters, calling on those who were ready to read their journals, and made a few comments after students were finished. However, most of her attention was engaged in the student working on the computer, as she was trying to teach him how to use a new language arts program.

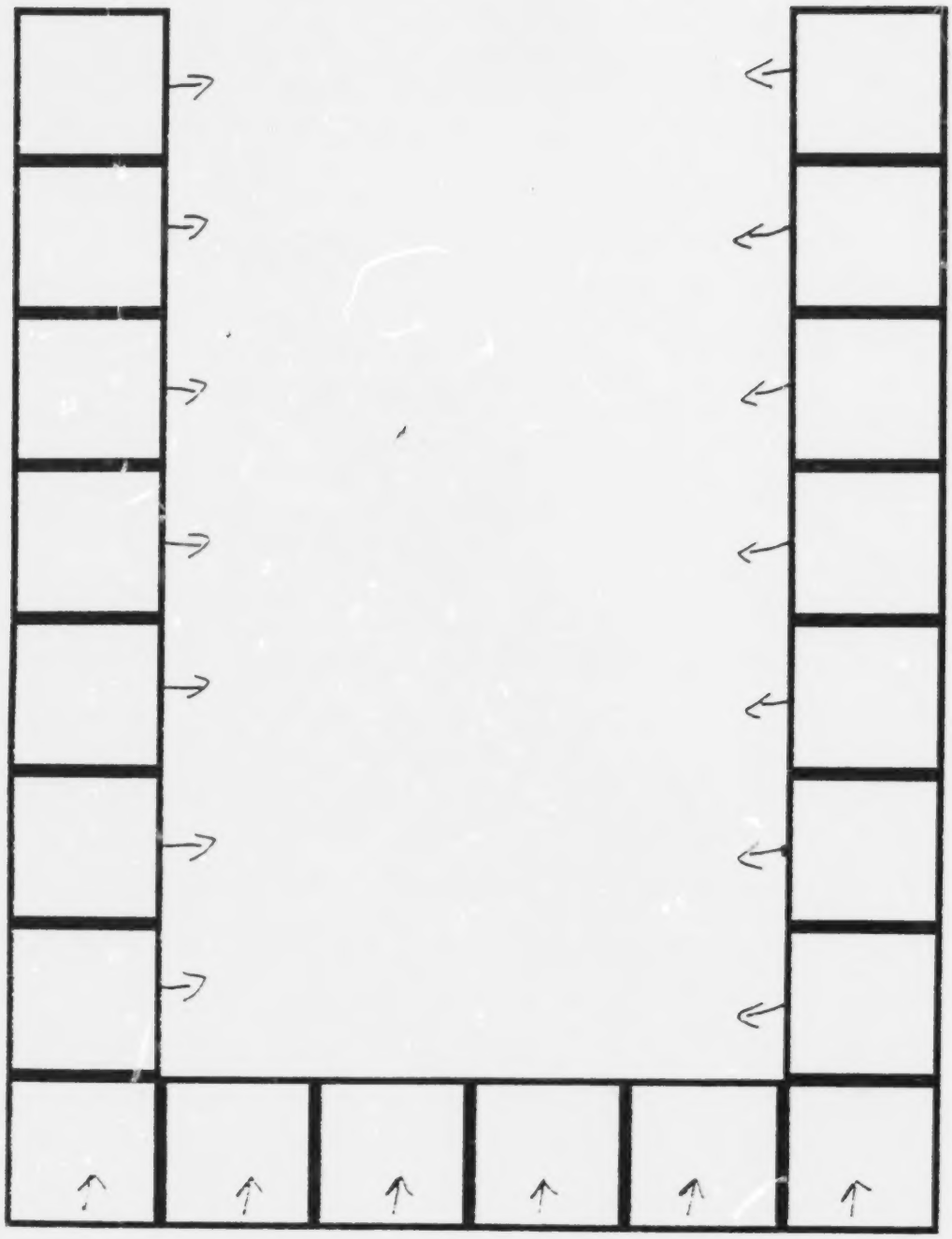
Students moved freely around the room, usually getting up to find books to read silently at their desks. Most of the students went up to the front of the room (the horseshoe opening) to read their entries, though some children stood up at their desks and read. While children read what they had written, other children continued writing in their journals, read books, or listened. Over half of the work I saw was done independently, with a minimal amount of teacher-student interaction (besides at the computer) or student-student interaction occuring. There were some instances of children getting out of their seats to find books, go to the

bathroom, etc., but, for the most part, the students remained at their desks. A few kids on the back sides of the horseshoe were not on-task, and the child in the front, sitting next to the computer, spent more than half of the time turned around in his seat, watching Mrs. Brown and his classmate.

Classroom A

Board

Computer

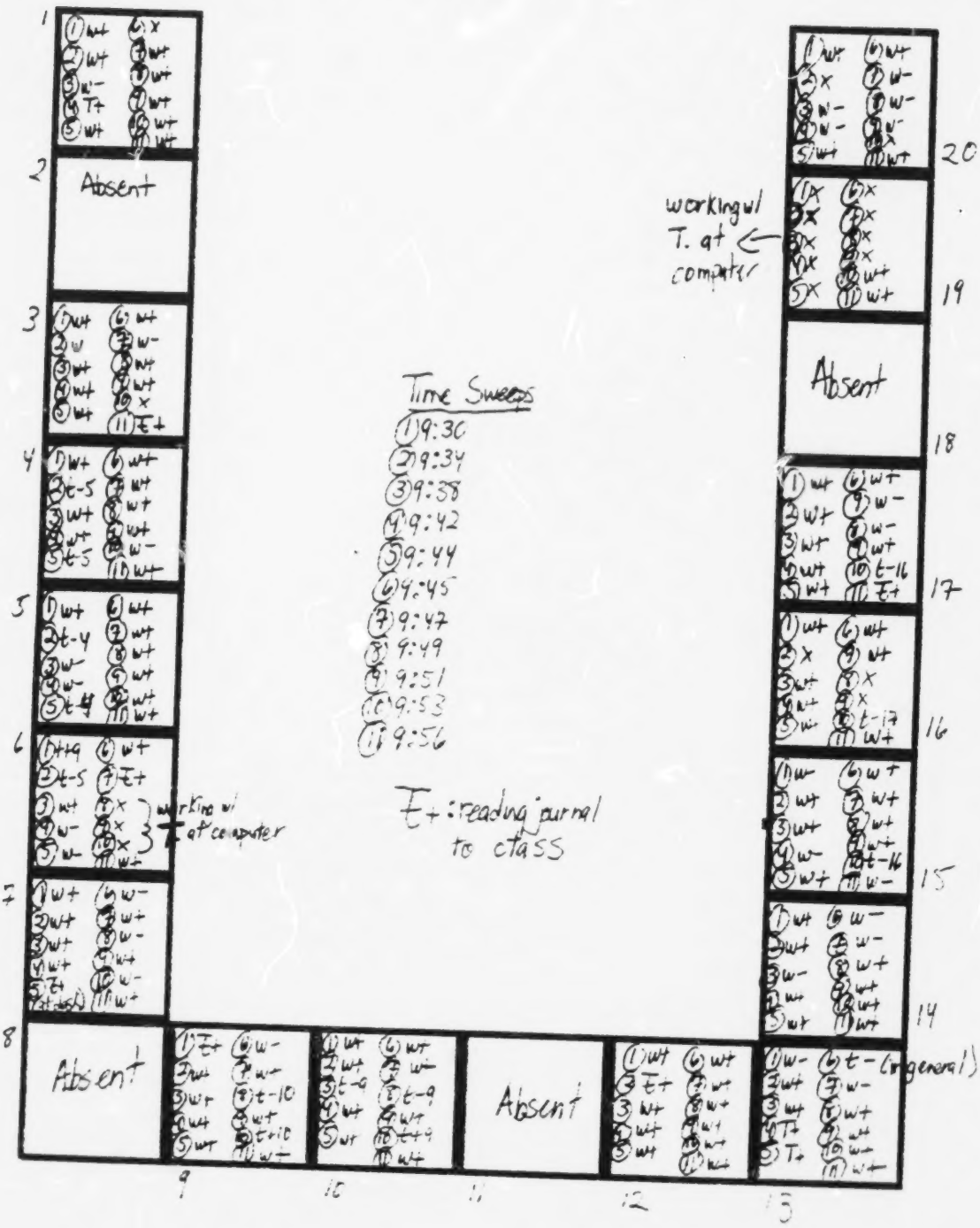


windows

reading table / teacher's desk

Board

Computer (T)



CLASSROOM B (Lily Loustrunk-Grade 2):

What she said:

Ms. Loustrunk informed me that she was a visually-oriented person who was spatially connected, and thus gave a lot of thought to how her room was arranged. She considers student personality to be her major influence when choosing seating arrangements, and has changed her room arrangement often--about 20 times prior to our interview in March. These changes were usually made to provide novelty and variety for her classroom, though she mentioned she had moved the seats into tables for her math class to play group games the week before. She had, in fact, planned on leaving them in such a formation for the regular class, but noticed problems the children were having selecting seats early Monday morning. For this reason, she moved the seats into the formation I observed. Ms. Loustrunk plans to use tables later in the year, when the students are ready to handle that type of arrangement.

It is important to Ms. Loustrunk that the children have ownership in their classroom activities, including seating arrangements. Because she wants the students to be responsible for their own actions, she allows them to choose their own seats, settling their own problems if they have one. She makes modifications as she sees fit, and recognized the parents' surprised, if sometimes troubled reactions, to this student-selection policy in the beginning of school.

Student ownership of learning activities is also an essential

aspect of Ms. Loustrunk's teaching philosophy, and she believes that children must take an active role in the learning process to increase their overall learning. She feels that children learn best, "by doing, and when they've asked the question." Ms. Loustrunk told me that her teaching methods are divided fairly evenly between whole-class instruction, group work, and independent work, with an emphasis on pairing and group work. She incorporates a group rotation system in her morning language arts program, taking reading groups herself and allowing an aide to supervise art activities, seatwork, and so on. She usually features storytime or a big group learning activity in the afternoon, though she likes to veer away from this set schedule every once in a while, "to get a fresh look."

Ms. Loustrunk pointed out how she used to have trouble separating a student's desk from the rest of the class arrangement, but she recently got help with this. She now realizes that "pulling kids apart is a favor for some," and she usually pulls these children back in for snack and other non-working activities. She likes to call each child's desk his "office", and has them move their office now, if necessary. She feels that her strongest management skill is to catch kids "doing the right thing", and by giving some students their own space, this is easier to do.

Though she's been teaching for 18 years, she immediately remembered her own seating arrangements as a student, beginning with her first grade class with the desks bolted to the floor in

rows and attached to the seat in front of them. She noted that: "no matter what, that's were they were forever." Most of her other arrangements featured movable desks in rows, but she also remembers some tables, and arrangements that changed according to unit in her sixth grade class.

What I saw:

I observed during the language arts group rotation, so Ms. Loustrunk was occupied with a reading group at the back table throughout the observation. As I mentioned in the methodology, I did not formally note the teacher-student interactions going on in these groups, because I focused on the class in the regular seating arrangement. I used the aide as Teacher for my observation, and she helped the other students working on an art project. Those students not at reading group were either making a montage of animal pictures, or copying down sentences from the blackboard for handwriting and spelling practice. The materials for the animal project were located on two work tables in the back of the room, and students were allowed to stand at these tables to work.

There was a great deal of free student movement around the room, as children walked around finding pictures, cutting things out, and working with other students. Some students brought the materials back to their own desks and worked on the montage there. A few girls talked about their projects and other things as they worked side-by-side in the front row, and one of the girls was

asked to move to the separated seat in the back row because of excessive talking.

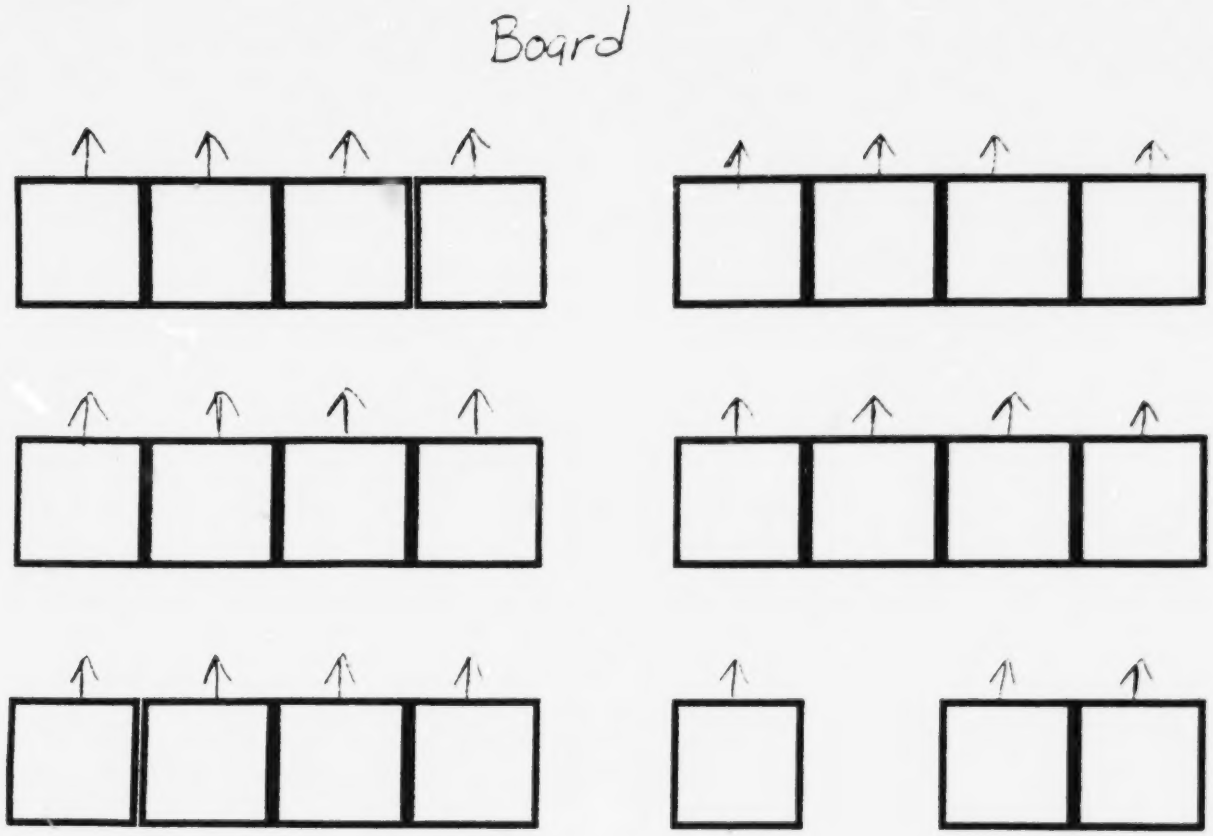
The aide was always busy working with a student, either having approached them as she walked around the room or having been approached by the student himself. Kids were mostly out of their seats during this observation, either for reading group or at the back work table. Most of the students working at their desks worked quietly on either the montage or sentences, and many students were neighbor-less because of the reading group.

One student, who sat at the separated desk, came in after the rotation had begun, because he had been in the resource room. Unsure of what to do, he picked up a piece of construction paper, and began cutting fringes into the ends with scissors. As the groups rotated, Ms. Loustrunk noticed that this student was not doing what he was supposed to, and suggested that he asked the aide for directions. He then approached the aide, using the request Ms. Loustrunk had suggested verbatim. The aide gave a brief explanation of the activity, and the boy worked the rest of the time on his own, though I noticed he still was not doing the project correctly. Near the end of my observation, I saw him pick up the scissors and begin fringing the paper again.

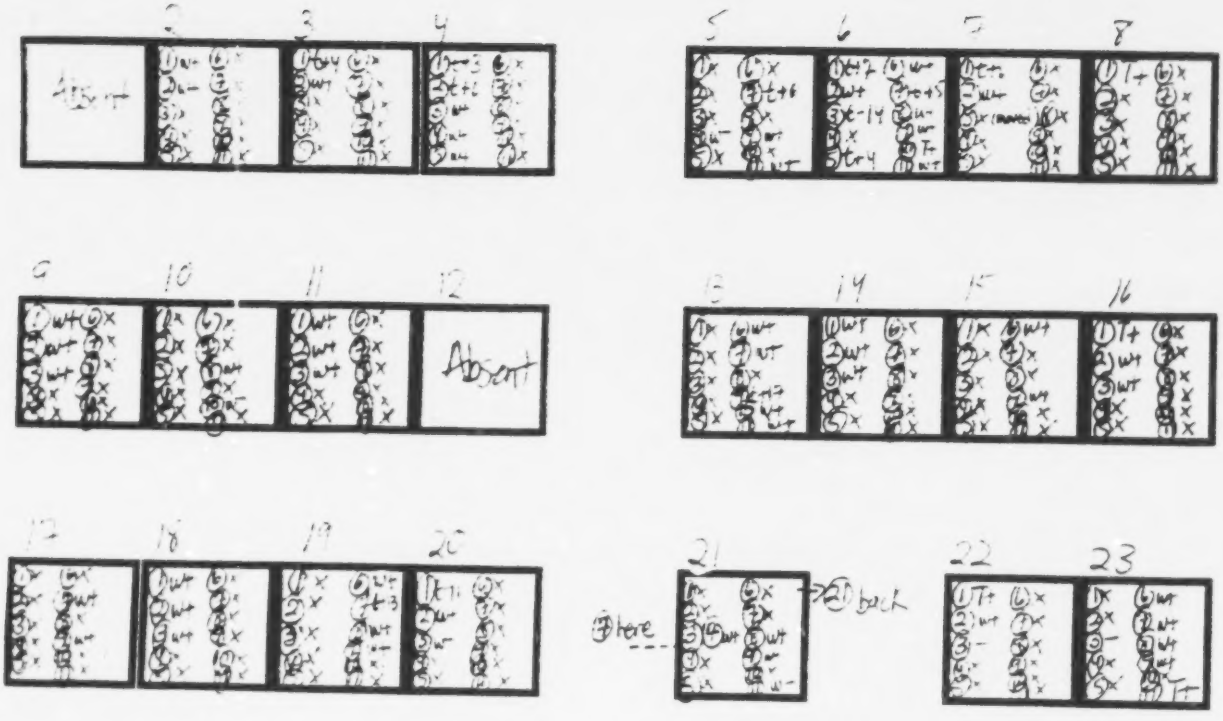
During the transition time while the class got ready for pictures, Ms. Loustrunk showed the class an example of a montage that was being done correctly, because she found several that were being done incorrectly. After the break and rotation, the activity

continued much the same way, with a new group reading with the teacher, kids working at their desks, kids working with each other, and kids walking around the room.

Classroom B



Board



Time Sweeps

(1) 9:23
(2) 9:26
(3) 9:29
— Lass out for pictures
(4) 9:42 (grow rotator)
(5) 9:44
(6) 9:48
(7) 9:50
(8) 9:53
(9) 9:54
(10) 9:56
(11) 10:00

Work table

Work table

Heat room

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CLASSROOM C (Bob White-Grade 4):

What he said:

Mr. White emphasized the need for flexibility in terms of teaching styles, individual needs, and seating arrangements. He could not pinpoint an average amount of time spent on instructional methods because of this, noting that the methods varied depending on the project and topic they were working on. He did acknowledge that there was always a lot of small group work going on, even if that meant "a small group of one". He repeatedly mentioned the developmental approach to which he adheres, explaining that: "Children learn best when the program is designed for their strengths and supporting their weaknesses, and helping them to have strategies to move beyond that."

Mr. White stressed that not one thing was successful all the time for either teaching methods or seating arrangements, and recommended that the teacher: "be flexible, aware of what the children's needs are, and willing to adjust what they're doing." In general, he told me that a visitor could expect to see a lot of writing going on in his classroom, as well as reading time, presentation of a new idea, conferencing with the teacher, and/or independent work taking place.

In addition to underscoring an individualized program, Mr. White emphasized the element of fun in his classroom. He told me that he goes out of his way to make his classroom a fun place to be, so the kids will want to be there and will want to learn. He

doesn't get angry at misbehavior unless it disrupts someone's learning, and if such disruptions occur repeatedly, he pulls the offenders' desks to the back of the room for a few days.

Besides using fun as a motivating factor, Mr. White explained that he wanted his students to have fun in school because when he was a student, he hated school. He also remembers sitting in straight rows with aisles when he was an elementary school student. He changes his own seating arrangements about once every nine weeks, or more if he feels a need to. Mr. White usually makes up his seating arrangement as he goes along, in a "random design" technique, without the kids' input. He feels that the children haven't developed the judgement as of yet to stay away from someone they might get in trouble with, explaining: "You've got to find a seating arrangement that allows children to access one another, but not be too, too much. You can't have so much disturbance that it creates a problem."

What I saw:

As I noted in the methodology, the desks were arranged in a separated row and column arrangement when I first came in, because the kids were finishing Iowa testing. Mr. White had the class quickly move their seats back to their regular arrangement so my observation would be successful. The lesson I observed had several parts including: Mr. White explaining the correct use of quotation marks on the board to the whole class, and the students then

working quotation marks into appropriate parts of the stories which they had been working on. Students worked on their stories independently for the most part, though they often asked other students questions or discussed what they were doing with others. I noticed that students made such comments to a variety of surrounding students, as opposed to just talking to their immediate neighbors.

Most students paid attention to Mr. White's presentation, though a few notably did not. One of these students is a somewhat troublesome student, who stared out the window for most of the lesson, while one of the girls isolated in the back also appeared preoccupied while Mr. White spoke. Students worked fairly quietly on their own papers at their seats, though many got up often to discuss their work with Mr. White. Mr. White walked around the room a little, talking to a few students as he went around. When he answered the inattentive boy's question soon after presenting, I noticed that the boy began working diligently on his story.

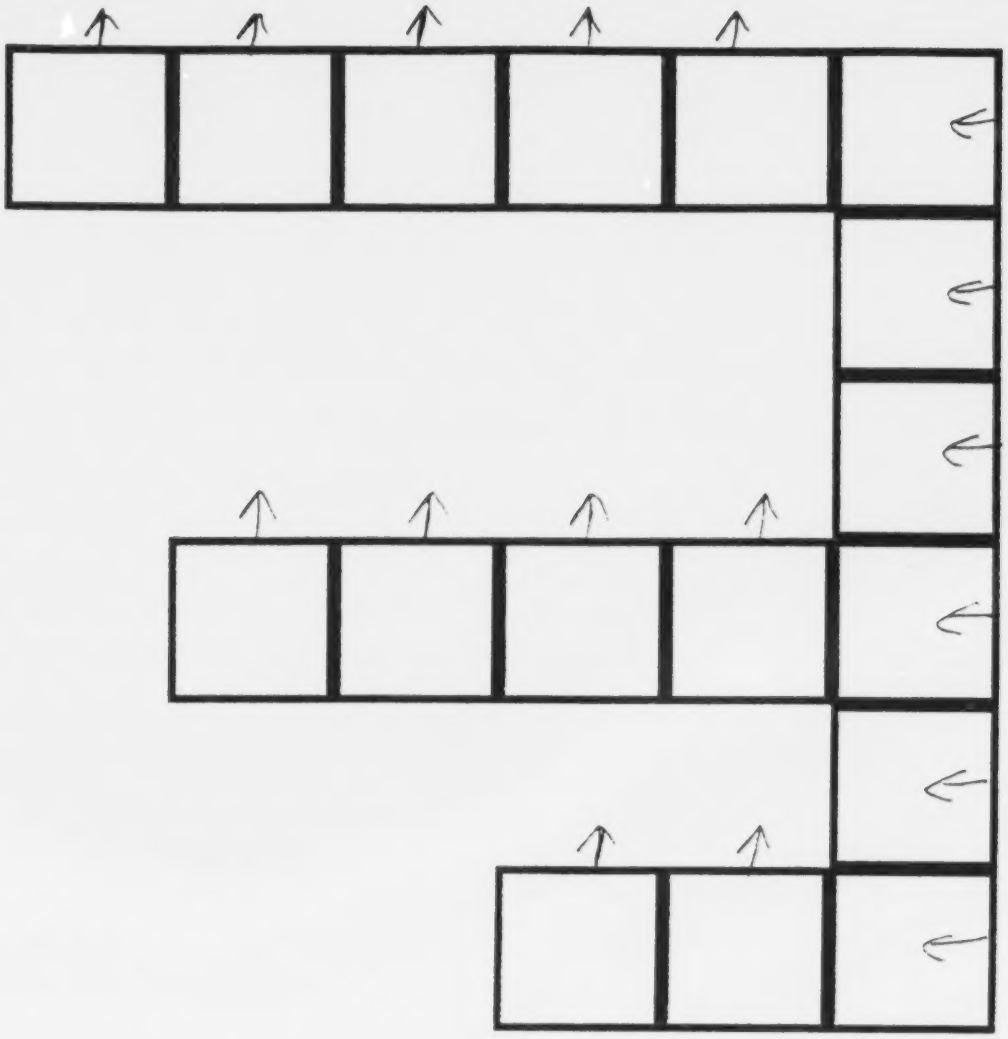
Mr. White's desk is at the back of the room, and I noticed that he would station himself at various points around the room where kids could approach him. He did not call children over to see him, but rather children went and waited on line to speak with him on their own. This caused a fair amount of movement in the room, and I also noticed kids getting up to sharpen pencils, talk to classmates, etc.

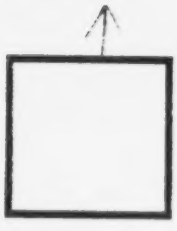
Most of the student talk was work-related, and during the one

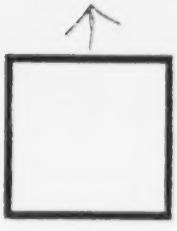
instance where two neighboring boys who sat near the center of the room were loudly discussing other topics, Mr. White made a comment to them to get back to work. Most of the time, however, Mr. White was engaged in conversation with individual students about their papers, and the class worked on their papers without direct supervision.

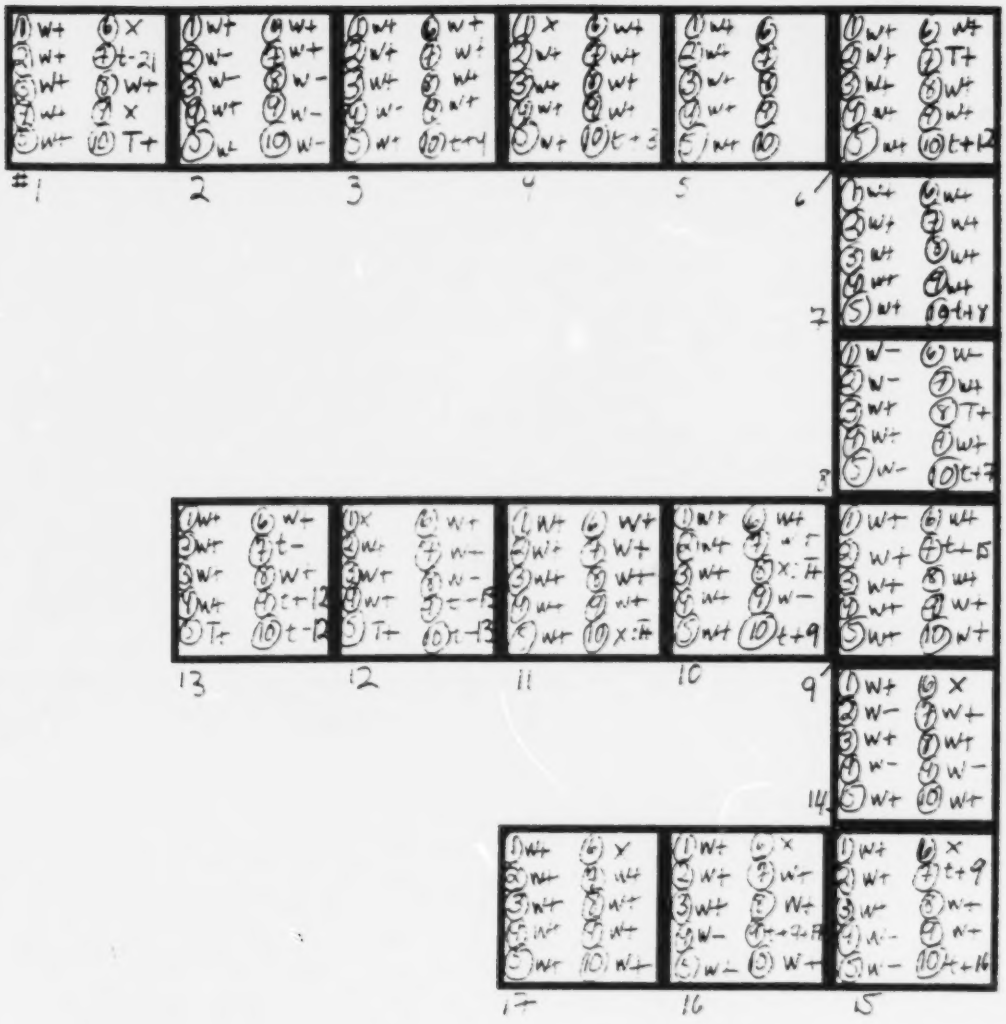
Classroom C

BOARD









Time sweeps

1. 10:39
2. 10:42
3. 10:44
4. 10:45
5. 10:48
6. 10:50
7. 10:55
8. 10:55
9. 10:57
10. 10:59

CLASSROOM D (Ann Murray-Grade 3)

What she said:

Mrs. Murray, like Mr. White, emphasized that children learn best in a variety of ways, and could not pinpoint one "best" way. She feels that kids learn by practicing, by touching, by reading, by writing, and "by all of the above." It was difficult for Ms. Murray to typify her teaching styles, but approximated that her class was engaged in whole-class instruction 50% of the time, group work 25%, and independent work 25% of the time. She noted that a visitor to her classroom could expect to hear a lot of noise and see a lot of kids working in pairs, using sources, and the teacher coming around.

Mrs. Murray believes that it is the teacher's responsibility to provide an opportunity for learning, and thus the teacher must establish a good environment in which learning can take place. Her current classroom is arranged similiar to her room last year with the desks in clusters, a library area, a games area, etc. She uses the cluster formation regularly, and likes to keep the size to four or five students so that effective student interaction can occur. She varies the clusters by people and location about once/month. Her last change was based on the arrival of the class computer, and in fact, class traffic patterns are of primary importance to her when arranging the seats.

Mrs. Murray decides her arrangement by the lay-out and size of the room, the number of students, and what looks pleasing to her

eye. She chooses the arrangements herself, though when she has given the students a choice, they usually pick rows or individual seats. She admits that these arrangements don't last very long, because she doesn't like them. She remembers her own arrangements as a student as being rows of double desks hooked together.

Mrs. Murray explained that her best days happen when things go in a direction she never intended, based on the children's questions and observations. She believes that teachers must try to think more about what they're doing, and finds herself thinking of the question she'll ask so that her students will be excited about finding the answer. She also emphasizes the element of humor in her classroom, noting that it's good to be able to stand back and laugh, and not take themselves too seriously.

What I saw:

As I noted in the methodology, this observation was full of problems, as it included reading group, snack time, and a guest speaker discussing animation. I didn't get to see much academic activity, but I saw some general patterns of interaction.

When I first began my observation, the groups were rotating, and Mrs. Murray had the reading group who was coming back to work with her bring their seats and put them in a circle. They discussed a story they had read independently, but I did not note the interactions going on since I was concentrating on the normal classroom arrangement.

Seating Arrangements

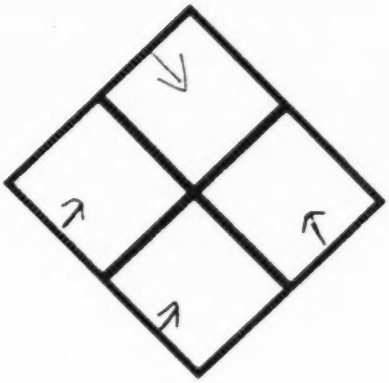
The students at their desks had just finished with reading group, and were assigned a story to read on their own. They were given the option of reading alone silently or quietly with a partner, and all options were chosen by the students. Two girls read together in the back row, and three kids read together at another cluster. One of those students normally sat across the room, but had decided to come read with the boy and girl who sat next to each other. Two boys sat next to each other at the front center cluster, but chose to read separately. The other two clusters were both occupied by single students who read alone. While all of these students kept on-task reading, when the boy who was alone at his cluster finished reading, he got up and walked over to the other side of the room, talking to several students at other clusters who had not yet finished themselves. Mrs. Murray noticed the girl of the reading trio talking to this boy, and instructed her to get back on-task.

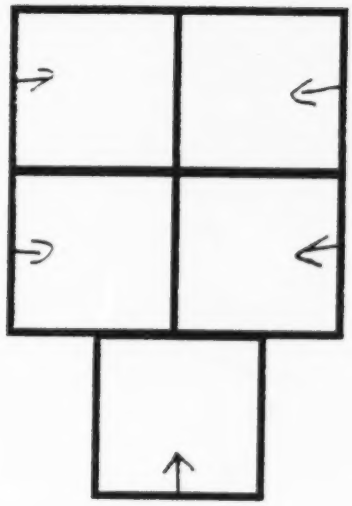
After the second reading group was finished, Mrs. Murray told the students to get their snacks. During this 10 minute break, children wandered around the room eating, talking to others, and playing with various items. Some students ate at their desks, and Mrs. Murray ate her own snack as she played on the computer. The student movement and talking were especially free during this interim, and interactions at this time were recorded without plusses or minuses. When the students finished, they returned to their own seats to get ready for the animation presentation.

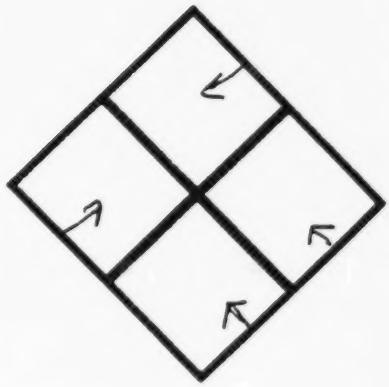
The class waited quietly and attentively for the speaker to begin, except for a few boys who were called out of the room to work on a school art project and a couple of the students in the side clusters who appeared to be daydreaming. For the most part, students listened attentively to the speaker, raising their hands to ask and answer questions, providing the T+ interactions. Some students made comments off the subject to the class in general, explaining the t- marks without a set student.

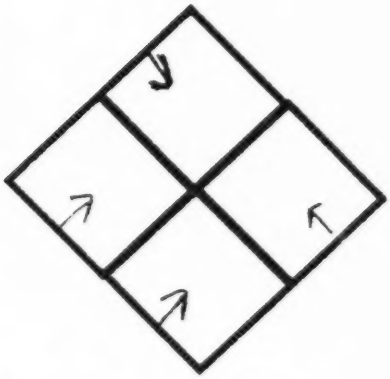
The other off-task behaviors observed included a few cases of daydreaming (especially with the girl at the side cluster who had been reprimanded earlier for talking), and a little bit of talking between neighbors. On the whole, however, the class seemed absorbed in the presentation, especially when clips of animated movies were shown. Mrs. Murray sat at a table at the back of the class to watch the presentation herself.

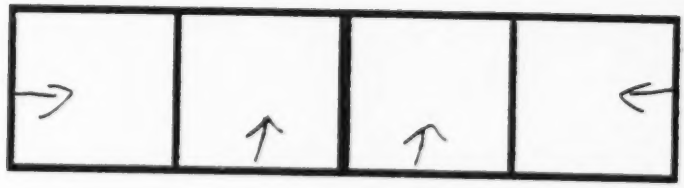
. Classroom D







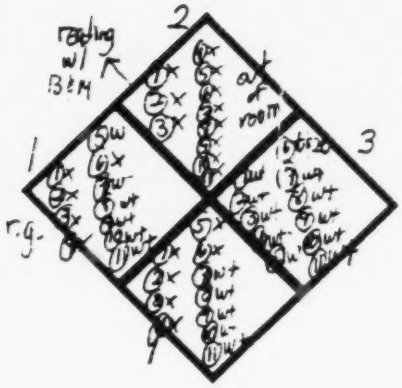


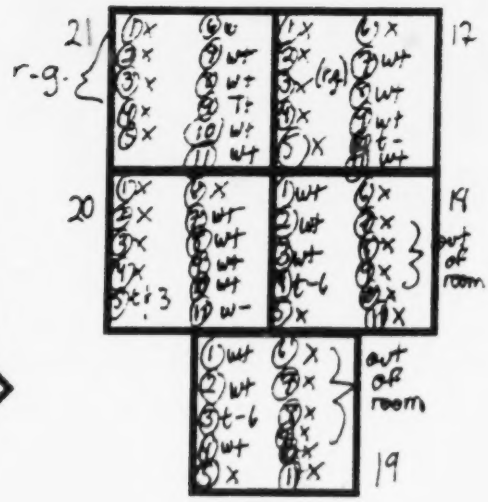


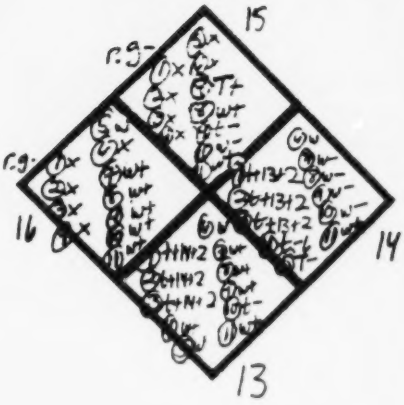
Teacher's desk

reading circle

T.V. (for presentation)

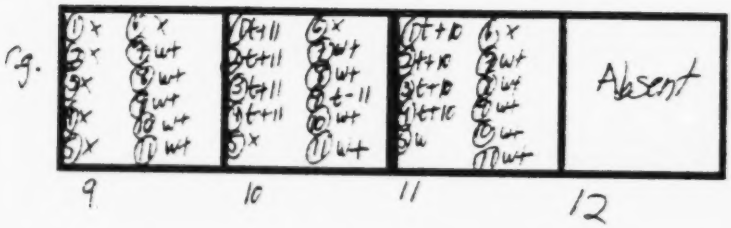






Time sweeps

1	10:22	
2	10:25	
3	10:27	
4	10:30	
5	10:36	snack
6	10:40	
7	10:45	guest speaker
8	10:47	
9	10:49	
10	10:54	
11	10:56	



DISCUSSION

When I began this study, I was looking to find the best seating arrangement to use in my future classroom. After reading literature on the topic, talking with teachers, and observing classrooms with various seating arrangements, I realized that I did not have an answer for my original question, but had learned something more important instead. As Rhonda Ross (1982) claimed, there is no single best seating arrangement, and just as teachers adjust their instructional methods to try and meet the needs of all their students, they must adjust their arrangements to create the most effective learning environment for the students. The teachers I observed had all thoroughly thought out the issue of seating arrangements, yet none of them regarded their arrangement as a valuable teaching instrument. While some of the arrangements were effective for the classroom activities I witnessed, none of them were as effective as they could have been, because although the teaching goals changed, the supporting environment did not.

I based my opinion on which arrangements were effective on the concept of synomorphy, defined earlier as the compatibility between program and milieu, and whether the arrangements supported the currently-espoused developmental, student-centered approach to learning. As I compared what each teacher said to what the literature recommends and to what I actually observed, I noticed

varying degrees of correspondence all around.

According to Cuban (1984, p.272), Mrs. Brown's horseshoe arrangement is supposed to facilitate student movement and interaction in helping to create a student-centered classroom. While her classroom supports such an approach in several ways, Mrs. Brown does not use her arrangement in this way as well as she might. The opening at the front of the horseshoe faces the board and any presenter who might be before the class. In my observation, I saw this space being used for students to present in an event that matched Mrs. Brown's desires and seemed literally student-centered. However, in our interview, Mrs. Brown told me she uses whole-class instruction 50% of the time, implying that she is the presenter before the class most of this time. Such use of the space shows that Mrs. Brown's class is still very much teacher-centered and this is how she intends it to be.

In our interview, Mrs. Brown stressed her role as a teacher in her students' lives, and her teaching methods and accompanying seating arrangement mesh to indeed place the teacher at the center of her class' learning experience. This is supported by the fact that she plans to keep the seating arrangement whenever possible, in accordance with room and class size. Despite suggestions from the literature that change is essential in seating arrangements, Mrs. Brown is adamant about keeping her arrangement constant not just during one school year, but from one year to the next. She does not take into account the tremendous differences in her

students' needs, expecting them all to function equally well in the same arrangement. She keeps the arrangement in a horseshoe because she likes it, not because of how it relates to the children. Without understanding that she needs to vary her teaching methods and seating arrangements according to what her class requires, she will have trouble reaching her goal of meeting each child's needs. While her seating arrangement correlates to much of what she said in her interview, she needs to learn more about the effects of seating arrangements to develop her knowledge base on these issues.

Ms. Loustrunk formed a very different case from Mrs. Brown, which was especially interesting because they both teach primary grade classes next door to each other. While Mrs. Brown never changes her seating arrangement, Ms. Loustrunk told me she changes her arrangement quite often. While she seems to be following the literature's suggestion, she does not understand why the arrangement should be varied often. As Ross notes, there are more reasons to change an arrangement than to provide novelty and variety for the classroom, and, in fact, "the most important reason that furniture arrangements should be changed is that teaching methods change" (p.20). Ms. Loustrunk changes her arrangements frequently to "get a fresh look", in the same way she does when she takes a break from the routine schedule of activities. While her teaching practices and desire for variety are very student-centered, she also needs to learn more about the specific effects of seating arrangements to make her frequent arrangement changes

more practical.

Ms. Loustrunk's other teaching philosophies both employ a student-centered basis and are reflected in classroom activity, demonstrating a beneficial correspondence. In her interview, she stressed the importance of student ownership in all areas of the classroom and also her belief in the students' learning by doing. Her seating arrangement allows for flexibility in the student's learning, and I saw kids working independently at their desks as well as working with neighbors and others around the room. By grouping children adjacently instead of face-to-face, she provides an arrangement which is highly usable for either group work or independent work, and the children were able to select whichever option they preferred, as long as others were not disturbed.

As the kids walked around freely working on their projects, I witnessed active learning at its best. However, if the synomorphy had been more strongly in tact, seating might've been changed in this activity to make more room for the creative nature of this project. Some seats could have been left in rows in the front for those students copying things from the board, while the rest of the space could have been used as a workshop area. Another area where the seats could have been moved to fit the activity is with the reading group rotation. If the furniture was not considered so stationery, then the students could have brought their own seats into a circle wherever it was most appropriate, instead of leaving their seats and moving to the back table.

Seating Arrangements

One aspect which seemed to fit especially well with a child's needs, teacher beliefs, and the seating arrangement was found in her approach to separating a student who needed to have his own space. Instead of pulling him out completely from the rest of the class, Ms. Loustrunk left a desk's worth of space between his desk and the others, but still managed to keep him in the overall arrangement. While this shows one way that seating arrangements can aide a child's learning, I also found a drawback in the case I observed. Since the boy who sat in that desk came in late, he was unsure of how to proceed on the project. If he had not been separated, it would have been easier for him to see what the others were doing, and perhaps get help from them. As it was, however, he worked on the project incorrectly, finally giving up in the end. Once again, here is another case where arrangements may need to be adjusted to suit the activity and the student's needs.

Lastly, it is important to note that while Ms. Loustrunk's teaching practices and beliefs are realized in her classroom, and her seating arrangment provides essential versatility as is, things might not be the same if she did not have an aide helping out while she worked with a small group. The aide helped facilitate the variety of activity going on in the classroom and was a key element to the success of the morning. It is also important to note that while this seating arrangement is appropriate for several teaching methods including whole class instruction, independent work, and pairing or small group work, any type of class discussion would

require a very different pattern, allowing students to face each other instead of talking to people's backs. Otherwise, with a little more development, Ms. Loustrunk seems well on the way to reaching a high level of synomorphy in her classroom.

After talking with Mr. White, he too seems like a strong candidate to learn to use seating arrangements more effectively. Repeatedly emphasizing the idea that there is no one best way to rely on in the classroom, and that a teacher must be flexible in order to address each student's needs, Mr. White already understands the rationale behind an ever-changing seating arrangement. Having told me that his teaching styles vary based on the project and topic they're working on, he is adaptable enough to switch arrangements in the same way. In fact, the speed and ease with which he facilitated the class moving their seats back from rows to the prior arrangement is an indication that such a rearrangement can work in the elementary classroom. Mr. White's strong adherence to a developmental philosophy would seemingly translate to a similar approach to seating without difficulty. However, his current beliefs about seating remain far from this goal.

When Mr. White discussed how often he changed his seating arrangements, he noted that he changed them once every nine weeks or "<u>more if the need arises</u>". As he told me he designs his arrangements as he goes along, it appears that Mr. White does not understand how a seating arrangement can help him reach his goal of

addressing class needs. While willing to be flexible with his teaching strategies, he must recognize that his seating arrangement is a tool in implementing these strategies. Mr. White's current arrangement allows for a fair amount of versatility, but is also limiting in some ways.

During my observation, I witnessed a variety of interactions which bend towards a student-centered approach, but this was combined with some teacher-centered aspects. As the students faced the board to watch Mr.White present the topic of quotation marks, the classroom had a decidedly teacher-centered feeling, and the teaching method was clearly whole-group instruction. But as the students began working on their stories, they worked according to their needs. Some students worked quietly at their desks, some discussed their work with surrounding students, and some approached Mr. White for guidance. The transformation into a student-centered classroom happened before my eyes, and I realized that his seating arrangement is appropriate for both types of classrooms.

The basic row formation facing the board made whole-group instruction feasible, yet the close proximity of desks also made it easy for students to work together when necessary. However, while most of the class automatically focused on the front of the classroom, the group on the side faced the windows. It took more of an effort for these students to give Mr. White their attention, and I was surprised that the boy with behavior problems, whom I mentioned earlier, was given one of these seats. As I noticed his

lack of attention during the lesson, I realized that his placement in this arrangement did not best serve his needs. If Mr. White is planning to use whole-group instruction, then the seats should be arranged so that everyone has the same advantages.

Another instance where a similar need was not being met was found with the girls isolated in the back of room. While Mr. White separated them to keep them from disrupting others' learning, he, in fact, disrupted their learning. Set as far back as they were in the classroom, it appeared to be difficult for these students to focus their attention on what was going on in the front of the room. When presenting an idea in this way, it might be wise for Mr. White to bring these students to the front of the room instead.

The current seating arrangement is also limiting in that some students' desks are not easily accessible for Mr. White to reach. This is especially true for the desks at the inner vertices, and while student movement is clearly allowed, and perhaps even encouraged, in this classroom, some students might suffer for this exact reason. A great deal of initiative is required for a student to approach the teacher on his own, and while this is a part of a student-centered classroom, a shy or less confident child is at a definite disadvantage. Unless the teacher can ensure that he is meeting with everyone who needs his help, he must be able to just as easily reach a student in need. While Mr. White's friendly, jocular personality does make him easily approachable, there still may be some students who need to be approached by him.

Mr. White strongly believes in the developmental approach, and this is obvious in his variation of teaching styles and the constant independent student work going on in his classroom. If Mr. White changed his seating arrangements as he changed his teaching methods, then his classroom would better serve his students' needs, as well as guarantee agreement between program and milieu at all times.

Mrs. Murray, like Mr. White, believes that students learn best in a variety of ways, yet, like Mrs. Brown, she is fairly constant in her seating arrangement. She uses the student-centered approach of clusters, which according to Cuban (p.4), facilitates student interaction and group work, as opposed to a teacher-centered ideology. While this is, indeed, the best arrangement for small group work (Ross, p. 14), Mrs. Murray only uses group work for about 25% of her day. The lack of a front focus is irrelevant when doing group or independent work, but as she told me that she spends half of her time using whole-class instruction, then it becomes a major issue. Several children in this arrangement do not face the board at all, and even those that do are often distracted by the people sitting across from them. As I saw with the guest speaker, it is easy to lose some students' attention when they must contend with so many distractions.

I also saw a problem for children sitting in clusters, who were doing independent work. While the students were given a choice of reading individually or with a partner, every student at

a cluster seemed forced to choose the same option as his neighbor. If one child sitting at a cluster wanted to read with someone, but the other person wanted to read silently, then the other child, as I observed, had to approach the students at another cluster and move to where they sat. It would have been difficult for one child to read silently while two other people in the same cluster read aloud, so there seemed to be some sort of academic peer pressure at work in these circumstances.

The freedom in student movement, allowing the student to sit and read with the pair at a different cluster is noteworthy, but this same freedom allowed for the other student who finished reading to walk over and disrupt students still at work. With the teacher occupied by the reading group in the back of the room, it was difficult for her to ensure the good learning environment she strives for, and, in fact, she reprimanded one of the students who had been disturbed by the wandering child, instead of the actual disruptor. Without an aide like Ms. Loustrunk had, it is much more difficult to facilitate the activity going on in the other part of the classroom when the teacher is working in the back of the room with a group. Her idea of having the children bring their seats with them to form a circle is much more aligned with the idea of function-based seating, but by placing the group in the back of the room, Mrs. Murray still does not meet of all the class needs as well as she could.

The fact that Mrs. Murray always uses clusters, changing the

arrangements only to change who sits with whom and the location of the clusters shows she too is not aware of how she could most effectively use seating arrangements as part of her teaching practices. She emphasized her use of traffic patterns in setting up the desks, paying particular attention to lay-out and size of room. While these are, of course, essential items to consider when arranging a room, the instructional methods being used should be the most decisive factor. In fact, when I later asked her why she had four desks in a row formation, assuming that this was highly intentional, she told me she had to do that for space reasons.

Mrs. Murray should continue using clusters when engaging her class in group work, but for individual work and whole-class instruction, her students' learning needs would be better served by other arrangements. Mrs. Murray believes that students learn best as a combination of several different factors, and her seating arrangement should reflect this belief more positively.

I was especially interested in Mrs. Murray's comment about her students ususally choosing rows or individual seats when given the choice. Such a choice appears to be an indication that the children would prefer to do independent work in this more supportive arrangement, though it is a choice which Mrs. Murray tends to ignore. Her dismissal of the students' desires is reminiscent of a teacher-centered classroom, as opposed to the student-centered classroom that she appears to support. The teacher's beliefs, students' needs, teaching methods, and seating

arrangement must all be reconciled in order to achieve synomorphy, and, thus, the ideal learning environment.

While I focused on classroom interactions and desired teaching goals in relation to seating arrangements, much of the current literature on the topic is solely concerned with seating arrangements as a classroom management tool. I emphasized arrangements as a teaching tool instead, and found myself less concerned with hand-raising, quiet classrooms, etc., partly because such elements are not expected in a student-centered classroom and partly because none of the teachers were highly concerned with seating for managerial purposes. As most of the teachers were striving to create student-centered classrooms, they didn't find classroom noise to be a problem, and I noticed in my observations, that while none of the teachers ran "strict" classrooms, all the classes were very much under control. An effective teacher controls his class without seating arrangements that provide easy "surveillance", implying that much of the literature is focused on the wrong area for today's progressive teachers.

Another issue that I ignored in my research was seating arrangements in terms of student gender, which is highly relevant to the current "hot topic" of gender bias. While gender should play a part in selecting arrangements, none of the teachers mentioned gender as influential in their seating decisions, so I chose not to examine this aspect. However, when I pointed out that none of the teachers mentioned gender in my interviews to Mrs. Murray

after the research was completed, she noted that it is an important consideration, and she does take gender into account with each arrangement. A thorough examination of gender and seating arrangements would be beneficial to those interested in correcting gender bias in the classroom, and is highly recommended as a topic for further study.

CONCLUSIONS

After analyzing the collected data, it is apparent that a seating arrangement will be most effective if it is aligned with the teaching goals of each activity, and if it best serves the class needs. Thus, teachers should consider eliminating the idea of a fixed seating arrangement, and replacing it with seats that are arranged according to each activity. If such a plan is to be implemented, it is necessary that the classroom furniture be light and easily movable, so that students can move their own seats without complications. The time spent by the class moving their seats when needed will be justly rewarded by the increased learning which can occur in a highly synomorphous classroom.

In selecting the appropriate arrangement, it is necessary to consider:

* the method of instruction being used
  --whole class, cooperative learning, individual work, etc.
* the logistics of the room
  --position of board, size of room, number of students, etc.
* student personality
* amount and types of interaction desired

Ideally, these factors should all weigh into a teacher's choice of seating arrangements.

All of the teachers who participated in this study were progressive teachers, interested in meeting individual student

needs in the best possible ways. Given complete freedom in setting up a new classroom, each of these teachers has the opportunity to design flexible seating plans which can serve as valuable teaching tools. Educators must be made aware of the implications a seating arrangement can have for the quality of learning in their classrooms. As Poysner suggests (1983, p.40), current and future teachers need to be taught strategies for designing effective classroom physical environments in education courses and in-service workshops. Teachers who are willing to adapt their teaching styles to meet individual needs should similarly adapt their seating arrangements to create a strong environment for learning.

In continuing research on creating optimal learning environments, the topic of which arrangements the students prefer should be studied next. The more research done in this area, the better individual classrooms will be--and we will be yet one step closer to improving our nation's schools.

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APPENDIX A

Interview Questions
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I. General Questions

1) How many years have you been teaching?
2) How many years have you taught this grade?
3) Tell me how your classrooms were arranged when you were in elementary school.

II. In Your Classroom

1) About what percentage of your classroom time is spent in whole class instruction?
   --About what percentage is spent doing group work?
   --About what percentage is individual seatwork?
2) What kind of things can a visitor expect to see going on in your classroom during a typical lesson?
3) Tell me about a great day in your classroom.
4) How do you believe children learn best?
5) Is there anything else you'd like to tell me about your class?

III. Specific Questions

1) How long have you had the seats in this formation?
if changed:
   -About how many times have you changed the arrangement since the schoolyear began?
   -Why did you change the desks from the prior arrangement?
2) Is your room organized like it was last year?
if not:
   -What changes have you made and why?
3) Were the desks already set up when you arrived in the beginning of the year?
4) What influences you when setting up your room?
   -Do administrators play a part?
   -What about neighboring teachers?

APPENDIX B

Observation Instrument
****

Purpose: To measure quantity and quality of student-teacher and student-student interaction

Method: Time sampling (at least 10 sweeps/20 minute observation)
Seating Chart

Key:

T+	:	Student at desk talking with teacher on-task
T-	:	Student at desk talking with teacher off-task
t+	:	Student at desk talking with another student (identified by #) on-task
t-	:	Student at desk talking with another student (identified by #) off-task
w+	:	Student at desk working individually on-task
w-	:	Student at desk working individually off-task
x	:	Student not at desk

Definitions:

Talking on-task	=Comment related to required activity or commending appropriate behavior
Talking off-task	=Comment unrelated to required activity or reprimanding inappropriate behavior
Working on-task	=Doing required activity or listening/paying attention
Working off-task	=Doing other activity or daydreaming/not paying attention